

(Model.)

E. H. HULL.

REVOLVING SHUTTLE FOR SEWING MACHINES.

No. 254,217.

Patented Feb. 28, 1882.

Fig. 1.

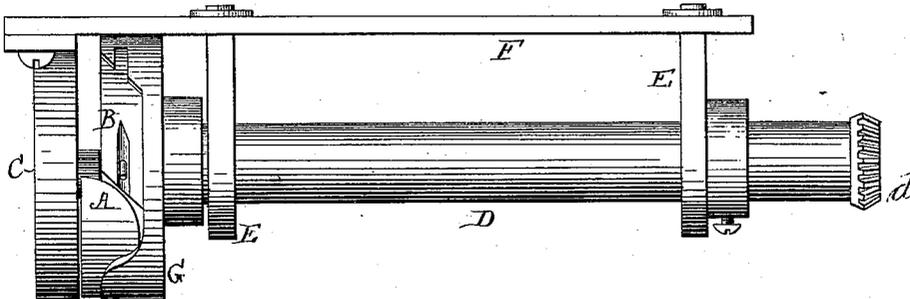


Fig. 2.

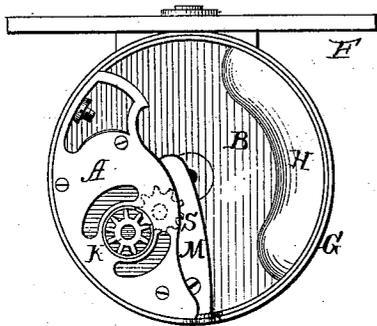


Fig. 3.

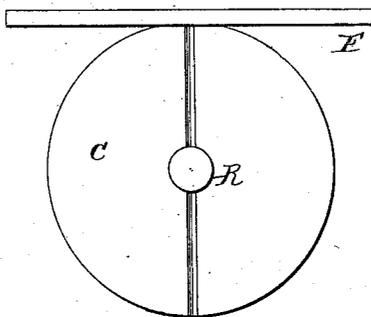


Fig. 4.

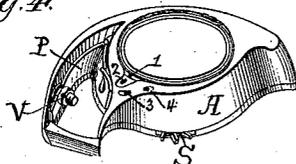


Fig. 5.

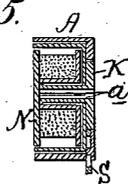
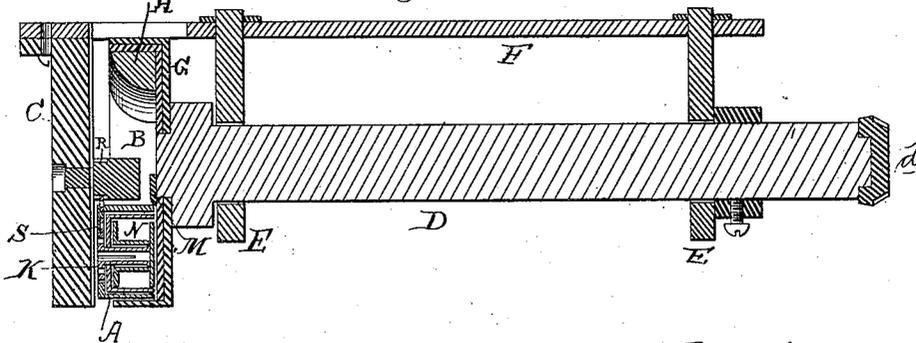


Fig. 6.



Attest.

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## REVOLVING SHUTTLE FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 254,217, dated February 28, 1882.

Application filed October 24, 1881. (Model.)

To all whom it may concern:

Be it known that I, ELIAS HUDSON HULL, a citizen of the United States, residing at Warren, in the county of Trumbull, in the State of Ohio, have invented a new and useful Rotating Shuttle for Sewing-Machines, of which the following is a specification.

The object of my invention is to prevent the bobbin of a revolving shuttle from turning on its axis from causes other than that due to the thread as it is drawn therefrom.

My invention therefore relates to sewing-machine shuttles; and it consists in the following construction and arrangement, which will be hereinafter fully described, and the points of novelty set forth in the claims.

Figure 1 represents a detail side elevation of a device to which my improvements have been applied. Fig. 2 is a side elevation of the shuttle and carrier. Fig. 3 is a similar view of the needle-track and circular shuttle-track. Fig. 4 is a perspective view of the shuttle, and Fig. 5 a transverse section of the same. Fig. 6 represents a central vertical longitudinal section of Fig. 1.

In the accompanying drawings, D represents the driving-shaft of the shuttle-carrier, receiving its motion from a gear, *d*, connected with the driving mechanism of a sewing-machine (not shown) or by any other suitable and known way. Shaft D is journaled in brackets E.

The carrier B, rigidly secured to its driving-shaft, is suitably arranged for the reception of the shuttle A by having a portion of its rim cut away sufficient to admit the shuttle, and also by having the stop-abutment M of conformation similar to the shape of that portion of the shuttle which rests against it.

An outer loose rim, G, surrounding the carrier and cut away to the same extent, serves to keep the shuttle in place by being revolved so as to cover the opening in the carrier, and is held in that position in any suitable and known way.

A counter-weight, H, arranged opposite the shuttle and secured to the carrier, is also provided. A spur-gear, K, keyed to the spool or bobbin-case, meshes with a similar but revolving gear, S, also secured to the shuttle.

The plate C, arranged in the axial line of shaft D, and serving as a circular track for the shuttle, is provided with a stationary spur-wheel, R, into which meshes the gear S when the shuttle is in place in the carrier. These spur-wheels K, S, and R each contain the same number of teeth, and are so arranged that the bobbin-case will present the same face throughout the revolution of the shuttle, in order to prevent the thread from becoming twisted, and yet allow the bobbin to be freely unwound as the thread is used; or, in other words, the arrangement of the spur-gears, as shown, serves to counteract the tendency of the bobbin-case to revolve due to the revolution of the shuttle in its carrier. The split tension-post *a* of the bobbin-case, on which the bobbin is journaled, serves to keep the bobbin N also stationary, except as the thread is drawn therefrom.

P represents the tension-spring for the thread of the bobbin, and is provided with an adjusting-screw, V. The bobbin-case is provided with a threading-hole, 1, and the shuttle with the holes 2, 3, and 4, by means of which the thread from the bobbin is led under the tension-spring P and out into the carrier B.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination of a revolving shuttle, a bobbin, a bobbin-casing having a spur gear wheel attached thereto, an intermediate spur-wheel secured to the shuttle, and a stationary gear-wheel, arranged for operation in the manner substantially set forth.

2. The shuttle A, having the spur-gear wheels K, S, and the bobbin N, in combination with the circular track or shuttle-plate C, having the stationary gear-wheel R, substantially as described.

3. The revolving shuttle-carrier B, in combination with the loose circular rim or casing G, having an opening in the same corresponding with the opening in the shuttle-carrier, whereby the shuttle is entered and the rim revolved upon the carrier to secure the same.

ELIAS HUDSON HULL.

Witnesses:

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A. B. RICHMOND.